

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A bone-marrow extraction and/or injection device comprising:

a grip zone; and

a needle presenting at least one side orifice;

wherein said needle is fastened onto a needle holder, and a protective sleeve surrounds at least part of said needle, said protective sleeve being mounted to move relative to said needle between a closed position of said at least one side orifice and an open position of said at least one side orifice, and said needle holder including reception means that are suitable for co-operating with fastener means of said protective sleeve so as to hold said protective sleeve in the closed position or in the open position; and

said fastener means include a pair of claws disposed diametrically opposite to one another, each claw being pivotally mounted, and presenting a manual actuation surface and a projection.

2. (previously presented): A device according to claim 1, in which said protective sleeve is mounted to turn about the needle.

3. (previously presented): A device according to claim 1, in which said protective sleeve includes at least one side opening that is positioned substantially facing said at least one side orifice of the needle in the open position.

4. (previously presented): A device according to claim 4, in which said protective sleeve comprises a first portion constituting a sheath surrounding said needle, and a second portion comprising said fastener means.

5. (canceled).

6. (previously presented): A device according to claim 4, in which said reception means of said needle holder comprise at least one groove that is suitable for receiving at least one projection of said fastener means of said protective sleeve.

7. (previously presented): A device according to claim 1, in which said device includes a mixing chamber that is connected to said needle, and to at least one inlet channel and at least one outlet channel.

8. (previously presented): A device according to claim 7, in which said mixing chamber is provided in the needle holder.

9. (previously presented): A device according to claim 7, in which said grip zone comprises a handle, said mixing chamber being provided in said handle.

10. (previously presented): A device according to claim 7, including an add-on element between said grip zone and said needle holder, said mixing chamber being provided in said add-on element.

11. (previously presented): A bone-marrow extraction system, characterized in that it includes a device according to claim 1.

12. (previously presented): An extraction system according to claim 11, in which said system includes a mixing chamber that is connected to said needle of the device, and to at least one inlet channel and at least one outlet channel.

13. (previously presented): An extraction system according to claim 12, in which an inlet channel is connected to a source of anticoagulant.

14. (previously presented): An extraction system according to claim 12, in which an outlet channel is connected to a bone-marrow collection vessel.

15. (previously presented): An extraction system according to claim 11, in which said system includes suction means connected at least to said needle.

16. (previously presented): An extraction system according to claim 15, in which said suction means comprise a vacuum pump.

17. (previously presented): An extraction system according to claim 15, in which said suction means are controlled by a control means comprising a pedal that is actuated by the user.

18. (previously presented): An extraction system according to claim 12, in which said at least one inlet channel projects into the mixing chamber and towards said at least one outlet channel, so as to create a Venturi effect.

19. (previously presented): An extraction system according to claim 11, in which said system includes a timer device for setting the duration of the bone-marrow suction stages.

20. (previously presented): A bone-marrow injection system, characterized in that it includes a device according to claim 1.

21. (previously presented): An injection system according to claim 20, in which said device is connected to a bone-marrow reservoir, said reservoir being connected to dispenser means.

22. (previously presented): An injection system according to claim 20, in which said dispenser means comprise a pump comprising a syringe with an electrically-driven plunger, or a CO<sub>2</sub> pump.

23. (previously presented): An extraction and/or injection system according to claim 11, in which said system is packaged in sterile manner.

24. (canceled).

25. (currently amended): A bone marrow extraction and/or injection device according to claim 24<sup>1</sup>, wherein the fastener means prevents a radial force from being applied to the protective sheath.

26. (currently amended): A bone-marrow extraction and/or injection device comprising:

a grip zone; and

a needle presenting at least one side orifice;

wherein said needle is fastened onto a needle holder, and a protective sleeve surrounds at least part of said needle, said protective sleeve being mounted to move relative to said needle between a closed position of said at least one side orifice and an open position of said at least one side orifice, and said needle holder including grooves which co-operate with a fastener of said protective sleeve so as to hold said protective sleeve in the closed position or in the open position; and

said fastener includes a pair of claws disposed diametrically opposite to one another, each claw being pivotally mounted, and presenting a manual actuation surface and a projection.